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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,803	04/04/2001	Fumiya Terakado	010490	1042

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EXAMINER

MUSSER, BARBARA J

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 11/20/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/824,803

Applicant(s)

TERAKADO ET AL.

Examiner

Barbara J. Musser

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ..

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 2, it is unclear whether the layer having the change in surface gloss claimed is part of the release layer as it is described as "a layer on which the three-dimensional pattern is formed" while the release sheet already contains "a curable resin on which a three-dimensional pattern...is formed".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 3(1)-5(1) are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi et al.(U.S Patent 5,885,490).

Kawaguchi et al. discloses a method of forming a continuous sheet having an optical function by extruding a thermoplastic resin between a patterned release sheet and a cooling roll with a patterned or mirror surface, and removing the release sheet

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after cooling.(Abstract) The release sheet can be a curable resin.(Col. 3, ll. 43-50) It does not disclose the release sheet having a change of less than 30% in the surface gloss after pressing with a hot plate heated to 160°C under a force of 20kg/cm³ for three seconds and that the release sheet can be wound over a cylinder of less than 12 inches in diameter. However, the reference uses the same resins as the applicant. These resins would have the same characteristics as those used by applicant. Additionally, as the release sheet is intended to transfer the pattern while being pressed between two rolls and while simultaneously contacting a hot thermoplastic resin, one in the art would appreciate that the curable resin chosen would be capable of not losing definition(surface gloss) while heated to a temperature near that of the extruded resin and while pressed with a force approximating that caused by the rollers forming the nip. As the release sheet is originally wound on a pay-out roller(7), one in the art would appreciate that the thickness and composition of the sheet would be chosen such that the sheet did not fracture when wrapped around the roll. These pay-out rollers span a variety of sizes, and it would have been obvious to one skilled in the art to use a composition and thickness that would not fracture when used with a pay-out roll. Absent unexpected results for 12 inches in diameter or less, this limitation is considered obvious.

Regarding claim 3(1), the resin can be extruded between a release sheet and another layer which it is laminated to. The layer can be a light-transmitting sheet.(Col. 5, ll. 4-10)

Regarding claim 4(1), the release sheet can be formed by embossing the design using a metal embossing roll.(Col. 6, ll. 10-11)

Regarding claim 5(1), the resin can be curable.(Col. 3, ll. 46-50)

5. Claims 2, 3(2)-5(2), and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi et al. as applied to claim 1 above, and further in view of Gray, III et al.(U.S. Patent 4,322,450).

Kawaguchi et al. does not disclose the release sheet being a composite or the specifics of how the release sheet is formed other than via the use of an embossing roller. Gray, III et al. discloses a composite release sheet made by coating a curable resin on a substrate, pressing a design into it, and partially curing it prior to removal.(Col. 3, ll. 9-28) This process is better than other processes for forming an embossed pattern since it insures complete replication of the embossed pattern in the curable resin.(Col. 2, ll. 59-65) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a composite substrate formed in the method of Gray, III et al. since this would insure the complete replication of the pattern on the release layer.(Col. 2, ll. 59-65).

Regarding claim 3(2), the resin can be extruded between a release sheet and another layer which it is laminated to. The layer can be a light-transmitting sheet.(Col. 5, ll. 4-10)

Regarding claim 4(2), the release sheet can be formed by embossing the design using a metal embossing roll.(Col. 6, ll. 10-11)

Regarding claim 5(2), the resin can be curable.(Col. 3, ll. 46-50)

Regarding claim 6, while the reference is silent as to the ratio of thickness of the release coating to substrate, one in the art would appreciate that the coating would not be extremely thin in relation to the substrate as it would not hold a significant pattern nor extremely thick as that would waste resin. The ratios claimed are considered conventional. Absent unexpected results, the ratios claimed are considered obvious.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi et al. and Gray, III et al. as applied to claim 2 above, and further in view of Kanki et al.(U.S. Patent 6,040,356).

The references cited above do not disclose any substrate other than paper though Gray, III et al. only states the substrate is preferably paper.(Col. 3, ll. 54) Kanki et al. discloses a release sheet wherein the substrate can be paper or stretched PET.(Col. 5, ll. 20-29) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any type of material as the substrate in Kawaguchi et al. and Gray, III et al. since Gray, III et al. suggests paper is not the only possible substrate and since Kanki et al. discloses other conventional substrates other than paper such as stretched(oriented) PET.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is **(703)-305-1352**. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

BJM

BJM

November 18, 2002

Michael W. Ball
Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700